

# Mandatory Commercial Recycling Workshop January 2011



Air Resources Board



# Introduction

- ▶ Proposed regulation
- ▶ Changes to the regulation
- ▶ Multi-family analysis
- ▶ HF&H Final Report Summary
- ▶ Additional Economic Analysis
  - Implementation schedule
  - Costs to businesses
  - Costs to State agencies, schools, and local jurisdictions
- ▶ Emissions and Environmental Impacts
- ▶ Next steps

# Proposed Regulation

# Proposed Regulation

- ▶ Applies to businesses and multi-unit residential family dwellings of at least 16 units that generates four cubic yards or more of commercial solid waste per week
- ▶ Also requires local jurisdictions to implement a commercial recycling program which consists of an education, outreach and monitoring
- ▶ The proposed regulation will result in the reduction of greenhouse gas emissions as well as criteria pollutants and toxic air contaminants

# Changes to The Regulation

- ▶ Mixed Waste Processing
- ▶ Transformation
- ▶ Rural Jurisdictions
- ▶ Right of Businesses to Sell/Donate Recyclables
- ▶ Jurisdiction education, outreach, and monitoring component
- ▶ Jurisdiction Enforcement
- ▶ Enforcement language
- ▶ Miscellaneous changes
- ▶ Definitions

# Mixed Waste Processing

- ▶ Working group met:
  - Added in clarifying language in the regulation:
    - Comparable to source separation
    - Reference to authority that CalRecycle has to investigate information, methods and calculations
    - CalRecycle can review the recovery rate of commercial material going through the MRF
  - Develop a form that staff and jurisdictions can use for requesting information from MRFs

# Transformation

- ▶ Clarified that transformation can still apply
  - Haulers are not required to measure how much goes to WTE from commercial sector
  - Front-end processing
  - Some loads may not have front-end processing if certain conditions apply

# Rural Jurisdictions

- ▶ Added rural definition
- ▶ Added rural consideration in determining good faith effort
- ▶ Provide guidance regarding outreach, education and monitoring
- ▶ Develop model materials for rurals



# Right of Businesses to Sell/Donate Recyclables

- ▶ Added in clarifying language to 9XXX2 and 3
- ▶ Nothing in these regulations is **intended to prevent or otherwise regulate** the sale or donation of recyclable materials by the owner of such materials to a third party for purposes of reuse or recycle prior to discarding the materials

# Jurisdictions Education, Outreach, and Monitoring Component

- ▶ Clarified in Summary of the Regulation
  - Jurisdictions have the ability to phase in education/outreach/monitoring
  - Added examples for education, outreach, and monitoring

# Jurisdiction Implemented Enforcement/Penalties

- ▶ Clarified that enforcement by jurisdictions is not required
- ▶ Clarified that penalties may be assessed as consistent with a local jurisdiction's authority

# Enforcement Language

- Changes made to 9XXX4(f) of the enforcement language to provide clarity to enforcement structure after CalRecycle has determined that the jurisdiction or business has failed to implement its compliance order:
  - Enforcement Agreement, or
  - ARB
- Section 9XXX5 has been clarified to explain ARB's oversight authority

# Miscellaneous Changes

Additional changes that were made to add clarification include:

- ▶ Solid waste is commercial solid waste
- ▶ Budgetary constraints are to be considered when determining Good Faith Effort
- ▶ Definition of “franchise” is limited to commercial solid waste for purposes of the regulation

# Definitions

- ▶ Changed from 4 cy/week of recycling and solid waste to 4 cy/week of commercial solid waste
- ▶ Clarified that public entities are included in the business definition
- ▶ Multifamily changed from 5 units to 16 units or more
- ▶ Clarified that multifamily does not include less than 16 units
  - Frank Limacher will present staff's analysis

# Multi-family Analysis

# Multi-Family Units Affected by the Regulation

- ▶ California has 13.3 million housing units (single residential & multi-family housing)
- ▶ There are approximately 75,000 multi-family locations with 10+ units
- ▶ Analysis showed that multi-family units with 16+ units would generate 4 cubic yard or more per week of solid waste
- ▶ Therefore, about 68,500 multi-family locations, with 1.73 million units, are expected to be affected by the regulation



# Multi-Unit Housing Disposal Share

- ▶ 2008 study estimates 37 lbs/wk/unit disposal, or 0.25 cy/wk
- ▶ All multi-unit housing generates 8.4% of the statewide waste stream
- ▶ 58% of the multi-housing disposal is from locations with 16+ units

# **Commercial Recycling Cost Study**

## **HF&H Final Draft Report**

# Economic Impact Estimates

# Additional Economic Analysis:

- Implementation Schedule
- Number of Businesses
- Example of Costs

# Implementation Costs (millions, \$ 2008)

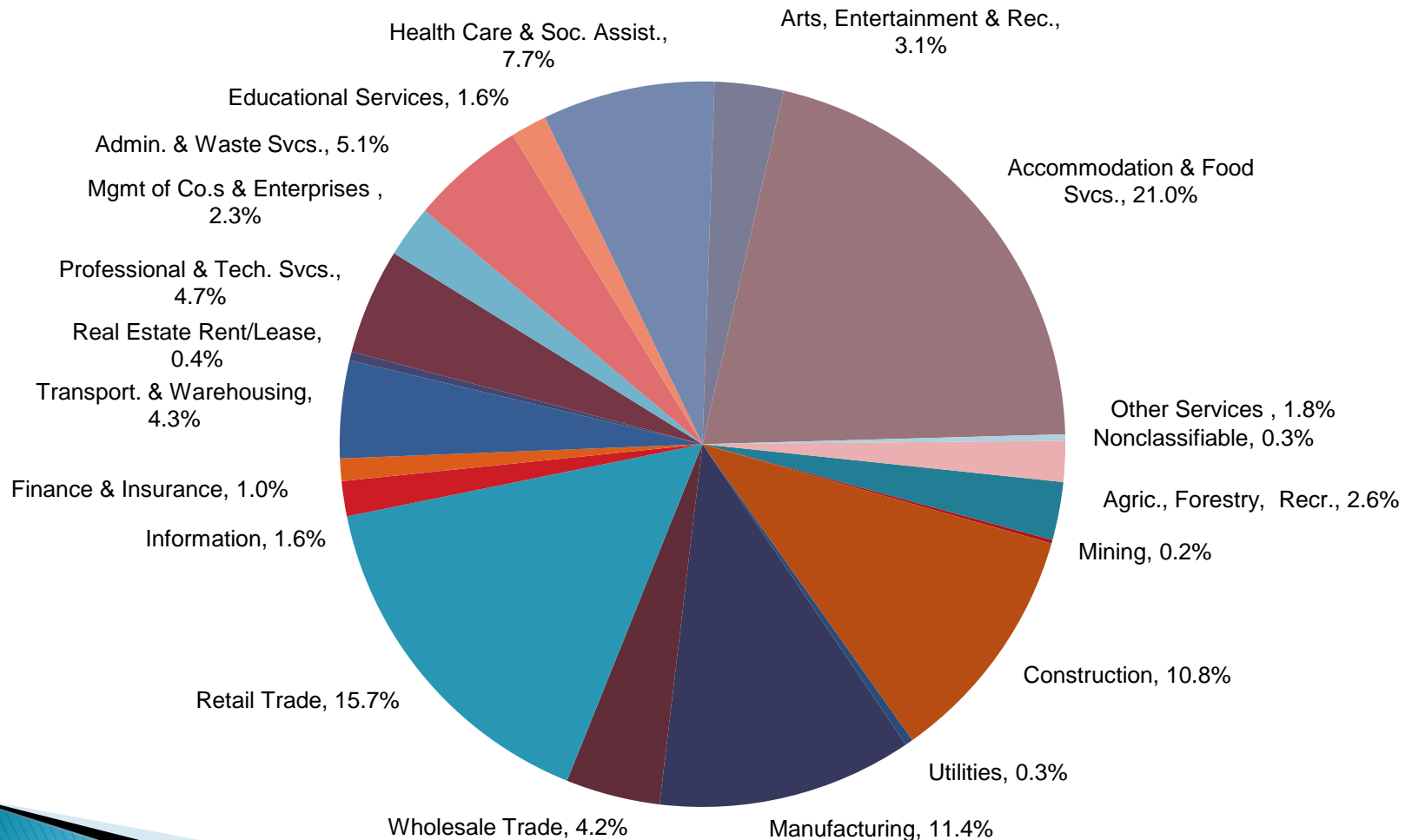
## Phased-In Baseline, with additional Costs of Scenario 2 and Scenario 4

Statewide Disposal Costs, HF&H Estimates				
	BASELINE	Increase Over Baseline, Million \$		Cumulative Rate of Phase-In
		Additional Annual Cost of Scenario 2	Additional Annual Cost of Scenario 4	
2012	\$2,308.8	(\$29.3)	(\$18.1)	11%
2014	\$2,386.0	\$7.6	\$35.0	33%
2016	\$2,447.3	\$47.2	\$89.1	56%
2018	\$2,522.2	\$91.5	\$144.2	78%
2020	\$2,597.2	\$138.8	\$202.3	100%

# Estimated Number of Businesses Affected by the Regulation

- 1.16 million business establishments in California, 2008 Q3
- 70% of businesses are largely exempted; typically have 4 or fewer employees (depending on business type)
- 11% of California businesses are currently operated in municipalities that have already implemented regulations similar to the MCR
- 252,000 additional California businesses will be affected by this regulation
- 234,000 businesses with fewer than 100 employees (93% of the additional businesses impacted) are “Small Businesses”

# Disposed Tons from Businesses Impacted by the MCR Regulation



# Example Firm Costs

## Annual Cost Increase (in 2010 \$)

### Business Cost for Full Implementation in 2020

	Number of Employees/Units	Full Cost in 2020
Retail Store	80 employees	\$2,500 - \$6,000
Multi – Family Housing	75-unit complex	\$600 - \$1,500
Sit Down Restaurant	20 employees	\$500 - \$1,200
Businesses Services	10 employees	\$170 - \$400



# Additional Economic Analysis:

- Costs to State Agencies
- Costs to Schools
- Costs to Jurisdictions

# Costs to State Agencies

- CalRecycle
  - Implement the regulation
  - Measure emission reductions at a statewide level
- Air Resources Board
  - May incur costs to monitor CalRecycle implementation and if future enforcement is warranted

# Estimated School District Costs to Comply w/Proposed Recycling Requirement

- It is estimated that the school districts will incur minimal cost due to the proposed regulation.
  - Staff surveyed 18 school districts
    - Represents schools from six regions of the State
    - Reflect large, medium & small school districts
  - Results
    - Most schools already have recycling programs
    - \$0 incremental cost to meet proposed mandatory commercial recycling regulation

# Local Government Costs for Education, Outreach & Monitoring Requirements

- Survey of start-up and annual costs
  - Local jurisdictions with MCR ordinances
  - Secondary survey of local jurisdictions w/o ordinances but strong voluntary commercial recycling programs
- Various regions of State
- Small, medium and large jurisdictions

# START-UP COSTS<sup>1,2</sup>, 2010 \$

## Cost Assessment for Jurisdictions

<b>Jurisdiction Size</b>	<b>Web Page Cost (A)</b>	<b>Printed Material Cost (B)</b>	<b>Contact &amp; Monitoring Cost (C)<sup>3</sup></b>	<b>Total Cost (A+B+C)</b>	<b>Average Cost (A+B+C)/n</b>
<b>Small (n=278)</b>	\$133,440	\$977,170	\$2,404,700	\$3,515,310	\$12,645
<b>Medium (n=232)</b>	\$487,200	\$1,682,000	\$5,537,840	\$7,707,040	\$33,220
<b>Large (n=27)</b>	\$32,400	\$143,100	\$2,929,500	\$3,105,000	\$115,000
<b>Total Cost (All Jurisdictions)</b>	\$653,040	\$2,802,270	\$10,872,040	\$14,327,350	

<sup>1</sup> Based on survey of jurisdictions with MCR ordinances or strong voluntary commercial recycling programs.

<sup>2</sup> Actual costs will vary based on individual jurisdiction's program requirements.

<sup>3</sup> Some jurisdictions included enforcement costs which are not required by the proposed regulation.

# Economic Impact Estimates

Questions ?

# Emissions and Environmental Impacts

# Environmental Impact: Summary

- Overall reductions of GHG and criteria pollutant emissions
- May increase composting and compost use
- Potential transportation increase
- Potential localized emissions of criteria pollutants increase



# Environmental Impact: Greenhouse Gases

- This regulation aims to achieve a greenhouse gas reduction of 5 million metric tons of carbon dioxide equivalents (MMTCO<sub>2</sub>E)
- A life-cycle method was used to quantify the greenhouse gas emission reduction factors for recyclable materials
- Greenhouse gas reductions are accounted for at the point of remanufacturing and not where the materials were recycled
- Up to 20% of the greenhouse gas emission reductions from this regulation may occur within the boundaries of California

# Environmental Impact: Composting

- Potential increase in composting by 2 MT/yr
- Expand existing facilities; site new facilities
- VOC emissions increase projected
  - Tonnes from scenario 4
  - Traditional composting: 2–4 TPD VOCs for green waste; 13–23 TPD VOCs for food waste
- VOC emission reduction technology – VOCs can be reduced by 90% or more from these levels
  - ASP/biofilter
  - GORE Cover system or similar cover systems
  - Finished compost cover blankets
  - In-vessel anaerobic digestion

# Environmental Impact: Traffic Analysis

- ▶ HF&H Cost Study Scenario 4
- ▶ Results
  - Existing infrastructure adequate
  - Statewide Impacts
    - Additional 75,000 vehicle miles per day
    - Statewide estimate of 43 million vehicle miles per day ~ 0.17% increase over current traffic
  - Minor increases to traffic load at a local level
    - Average of an additional 9-10 vehicle trips or up to 5 round trips per day per facility
  - Scenario 2 would result in about 23% lowered impacts

# Environmental Impact: Local Traffic

- ▶ Evaluated specific cases
- ▶ Impacts
  - About 4 additional trips per day maximum at full implementation for small transfer operations
  - About 27 additional trips per day or 14 round trips at full implementation for a large transfer facility (1000 tons or more per day)
- ▶ Mitigated by ARB's on and off-road diesel regulations

# Emissions and Environmental Impacts

Questions ?

# Mandatory Commercial Recycling

Open Discussion and Questions

# Next Steps

- ▶ Formal rulemaking begins – February 2011
- ▶ Air Resources Board Hearing – April 2011